

THE RIDDLE OF LIFE SERIES—No. 5.

NATURE'S MYSTERIES

AND
HOW THEOSOPHY
ILLUMINATES THEM

ancient maps

BY A. P. SINNETT

WITH ILLUSTRATIONS

PRICE 25 CENTS

Read the Following Books on Theosophy:

The Riddle of Life. Annie Besant (4 Illustrations)
The Life After Death. C. W. Leadbeater (4 Illustrations)
Nature's Mysteries. A. P. Sinnett (3 Illustrations)
An Outline of Theosophy. C. W. Leadbeater
Popular Lectures. Annie Besant
Theosophy for Beginners. C. W. Christie
Theosophy. Annie Besant
Theosophy Simplified. I. S. Cooper
Theosophy and the Theosophical Society. Annie Besant

Theosophical Manuals

Seven Principles of Man. Annie Besant
Re-incarnation. Annie Besant
Karma. Annie Besant
Death—and After? Annie Besant
The Astral Plane. C. W. Leadbeater
The Devachanic Plane. C. W. Leadbeater
Man and His Bodies. Annie Besant

BOOKS ON THEOSOPHY AND SCIENCE

Theosophy and the New Psychology. Annie Besant
The Physics of the Secret Doctrine. Wm. Kingsland
Scientific Corroborations of Theosophy. Dr. A. Marques
Nature's Finer Forces. Rama Prasad.
Theosophy and Modern Thought. C. Jinarajadasa
The Evolution of Life and Form. Annie Besant

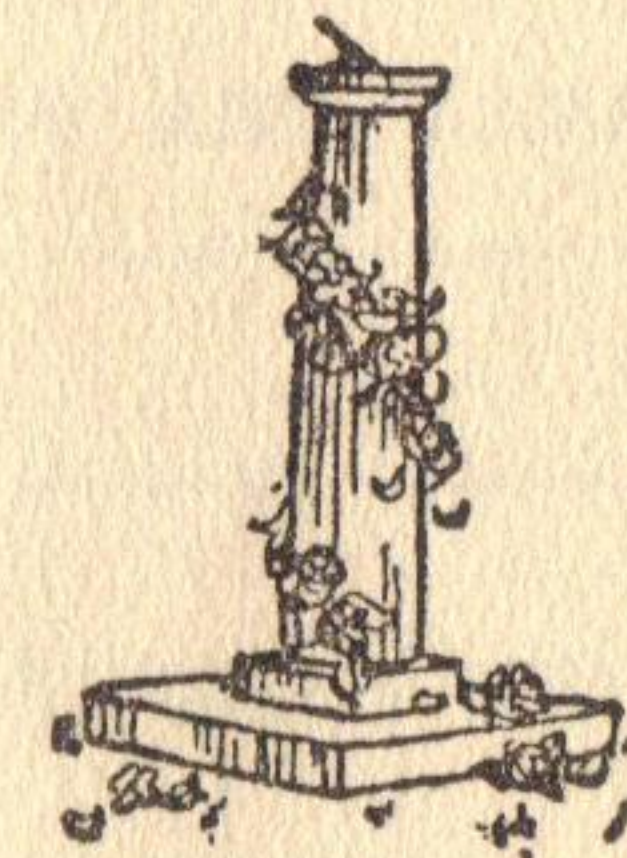
THE RIDDLE OF LIFE SERIES—No. V.

NATURE'S MYSTERIES

AND HOW THEOSOPHY
ILLUMINATES THEM

By A. P. SINNETT

Author of "Esoteric Buddhism," "The Growth of the Soul"
etc., etc.



Price 25 Cents

Theosophical Publishing House
 KROTONA
 HOLLYWOOD, LOS ANGELES, CAL.

1918

CONTENTS

	PAGE
PREFACE	4
CHARTER	
I. ACHIEVEMENTS AND LIMITATIONS OF SCIENCE	5
II. ATLANTIS	18
III. ASTRONOMY, ANCIENT AND MODERN.....	25
IV. FORETELLING THE FUTURE.....	35
V. BEHIND THE SCENES OF NATURE.....	44
VI. THE SENSITIVE AND THE "O.P.".....	51
VII. PHOTOGRAPHING THE UNSEEN.....	58

PREFACE

The collection of Essays, published in 1901, under the title, "Nature's Mysteries," has long been out of print, and the cream of that volume has now been skimmed off for reproduction in the present form. Much has been omitted, but some additions have been made where recent discoveries have thrown light on the subjects dealt with.

NATURE'S MYSTERIES

CHAPTER I.

ACHIEVEMENTS AND LIMITATIONS OF SCIENCE

People who may not be inclined or able to make a special study of science are apt to credit those who are recognized as men of science with knowing a great deal more than they would claim, as knowledge for themselves. The non-scientific person may entirely underrate the delicacy and minute precision of scientific work, but he is apt to overrate its grasp and scope. A correct appreciation of the beauty and magnitude of scientific achievement in one direction, and of the limitations that confront it in another, is very desirable on the part of anyone who, in a general way, is disposed to pay attention to the progress of invention, discovery and research.

To show plainly what I mean by a definite example, I may point to what is known and what is not known about electricity. The extent to which students in that branch of science can now manipulate electricity is wonderful and splendid. We can make electric currents do almost any kind of work we care to set before them. We can make them carry messages or passengers; we can employ them to light houses and streets, or to cook dinners; we can teach them to drive machinery, or to ring bells, and we can all the while measure their energies and quantities as accurately as though we were dealing with so much water or coal. Yet no man of science can tell us the first word of the answer to the question. What is electricity?

We can find out the rate at which electric impulses travel, and we know that this is identical with the speed of light, 186,000 miles a second. We know that currents differ very greatly among themselves in character, some being sharp and intense, and some bulky and feeble. We invent names for these attributes, and call the intensity "volt," and the volume, "ampère," and then we go on to invent other names that relate to the different characters of different substances as conductors of electricity, and talk about "ohms" as measuring the resistance such substances oppose to the passage of electric currents; but all the while no one knows whether there is anything at all to be conducted, whether electricity is a fluid, like a gas, only much finer, or a mere vibration in that mysterious medium which pervades all space—the ether.

One might take other illustrations of the idea I want to enforce. We have all known since Newton's time a good deal about the way in which gravitation acts. Many accepted rules guide its invariable behavior. It is a force that always bears a definite relation to the "mass" (for practical purposes, let us say the weight) of the bodies it affects, and to their distance from one another. But there the knowledge of the most advanced men of science stops short. No one can say a word when asked, What is gravitation? So again with the simplest experiences of everyday life. When you burn a lump of coal, what happens? We know that the various constituents of the coal enter into chemical combination with the oxygen of the atmosphere, but we do not in the least degree know why that process should involve the development of light and heat. Combustion is the commonest, and yet, in some of its aspects, still amongst the most puzzling, phenomena of Nature.

Certainly, in saying this, I do not want to decry the achievements of science, nor even its methods, though these will probably undergo considerable modifications as time goes on; but it is important,

in connection with the study of Nature, to realize both the range and limitations of science, because we are in presence of other attempts to investigate Nature besides those of the laboratory and observatory, and I shall have something to say, from time to time, about these, as well as about the achievements of ordinary science along the old familiar road. That which is commonly called science is exclusively "physical" science. It works with instruments made of metal, glass and so on, and has accomplished work that may be fairly termed sublime in its examination of what I will venture to call the outsides of things, but it always stops short in groping after a comprehension of their innermost essence.

Its failures are most obvious when we deal with any of the mysteries of Nature that are associated with life. The extent and minute precision of scientific knowledge concerning the mechanism of the human body are marvelous and admirable. Physiologists have found out all about the processes by which the human body is developed, from the earliest stages of conception to the latest maturity of growth. We know how the muscles that move the body are themselves controlled by the nerves; how these are animated by energies proceeding from the brain; and we even know how some nerves convey orders, so to speak, from the brain to the muscles, and others report sensations from any part of the body to the brain.

We even know what parts of the brain are concerned with the movement of each limb, what parts do business with the interior functions of the body, like digestion or blood circulation, and so forth; and if a man is afflicted with paralysis of some particular limb or muscle, we know exactly where to look for the injury to the brain that may have accounted for the defect. But with all this we have not got one step nearer comprehending the difference

between the dead body and the living one. We have not even got one step towards comprehending the difference between the smallest living weed and its dead companion. Or, at all events, physical science has not accomplished one step in any such direction. Mysteries of that kind lie outside the domain of physical science. Workers in that field are no more to be blamed for not penetrating the mysteries of life than a painter of pictures is to be blamed for not understanding how to make a watch.

Enquiries concerning life and consciousness belong to the domain of what may be called super-physical science, and that, as far as the modern world is concerned at any rate, is a young branch of science still at the stage of observing facts or phenomena which it does not yet fully appreciate. Its conclusions are, so far, little better very often than guesses. Its theories are as yet vague and cloudy in their outlines. Still, it is a progressive branch of science, and is growing up by degrees.

It is possible so to influence the body of a person peculiarly organized—specially sensitive—that the soul-mainspring, is set free from it for a time and can act independently of it—can be conscious independently of it, which is the all-important point to be considered. Meanwhile, the body is not conscious. You can prick it with needles and it does not feel, give it ammonia to smell and it does not cough—indeed, more reckless experiments have been tried on persons in the mesmeric state, and their flesh may be burned without their feeling anything; but such experiments as that are deeply to be condemned, because the body is thus injured, even though it does not feel pain at the time, so that when the soul comes back it finds its tenement out of repair.

A result of huge importance is reached by such experiments—equally well reached by those which are innocent as by those which are blameworthy—

namely, that the mainspring of the human creature is a separable something which can exist in full consciousness apart from the body, and, when apart from the body, is quite indifferent as to what happens to its deserted tenement. In short, the survival of the soul of a man, after what is commonly called his death, is all but demonstrable by means of mesmeric experiments—not yet, I must confess, within the reach of everyone who would like to try them, any more than the Lick telescope is within the reach of everyone who would like to look through it, but nevertheless within the reach of special enquirers in that line fortunately situated in various ways; and their work has been duly recorded for the advantage of all who are willing to become students of their department of science at second-hand. After all, every student in any department of science has to be content with second-hand knowledge of about nineteen-twentieths of all the facts he works with.

In connection with the whole volume of research that goes by the name of Spiritualism, it is as certain as the occasional appearance of comets in the sky, that spiritual *séances* are sometimes—very often—attended by invisible beings who are actually the departed souls of people who once lived in the body. Persons who deny that are as ignorant as they are silly. They are ignorant of the fact that scores—hundreds, indeed—of highly-cultured people bear testimony to their experience in that matter, and they are silly in supposing that their trumpery little prepossessions as to what is probable and what is improbable are to be set against the positive evidence of others at variance with those prepossessions. Also they are marvelously silly in supposing that because they may go to some spiritualistic *séance* and see reason to think the proceedings are imposture, therefore the proceedings at all other *séances* must be imposture too. There are forged bank-notes in the world, no doubt, but that does not militate

against the fact that there are also others which are genuine. But, on the other hand, while the rank disbelievers in spiritualism are foolish to an exasperating degree, the devotees of that pursuit are grievously unscientific in their methods, as a rule. They are on the threshold of a mighty science, but they too often think themselves in possession of advanced knowledge.

Spiritualism has certainly shown, what, indeed, could have been ascertained in other ways, that the human soul survives the death of the body. But it has not explained the destinies of the human soul after death, because people who pass away only learn about these by degrees, and while they are in a position to communicate with friends still in the flesh, they have rarely gone very far on their ultimate journey, and have not acquired any knowledge concerning its later stages.

A new impulse has been given to scientific thought within the last few years by the discovery and examination of that wonderfully interesting substance, Radium. Formerly it was supposed that an atom of any one of the many substances known as the chemical elements was a definite, indivisible unity. Now we know that all such "atoms" (the word is no longer appropriate in its literal meaning) are a complicated structure built up of far more minute atoms, the nature of which is still under investigation.

Now, I want to convey an idea to begin with as to how small the atom of the chemical elements may probably be. Great mathematicians like Lord Kelvin have worked at this problem, and they come to fairly similar conclusions. Lord Kelvin somewhere illustrates the conclusion by saying that if a drop of water were magnified till it became the size of the earth—all the atoms of which it is composed being magnified in the same proportion—then the atoms would be probably smaller than

cricket balls, but larger than small shot. Something between those two sizes!

That suggestion helps the imagination, but we only dazzle it if we talk of the figures concerned. The gases that compose the air we breathe consist, of course, of atoms. In a cubic centimetre of air (a centimetre is a little less than half an inch) there are thirty trillions of gaseous atoms. A trillion is a million billion, and a billion is a million million. Now a million alone is a number almost beyond the reach of imagination. If you began at six o'clock on Monday morning to count seconds, and kept on day and night without a moment's intermission till Saturday evening at six o'clock, you would only have counted half a million seconds, not quite that. And yet, in a little quantity of air, such as you take in hundreds at a breath, there are millions of millions of millions of atoms.

Now about those things which are smaller than chemical atoms. They are radiated or thrown off from the electrical apparatus which generates the much-talked-of Röntgen ray.

SYNTHETIC MATTER

Some of us have recently been interested in current statements concerning a new process for the preparation of "synthetic milk"—from vegetable materials—identical in chemical composition with the milk supplied by the cow. A still more remarkable achievement has since been announced—the production of matter itself by a synthetic process dealing with the fundamental etheric atom which, as occult students have long been aware, though science has but recently caught them up, is the basis of all physical manifestation. Sir William Ramsay, who has been conspicuous in advancing scientific knowledge in reference to the possibility of transmuting one form of physical matter into an-

other, has again been successful in showing that some simple forms of matter can be produced—one might almost say created—by the treatment of the ultimate atom itself, hitherto beyond the range of physical investigation.

This new development of scientific knowledge may be described as beginning with the examination of that highly interesting substance, radium. Some time ago Sir William Ramsay showed that it was possible to obtain helium—a gas previously regarded as an elementary body—from radium. Occult students were not surprised. Radium is a substance of very high atomic weight. That is to say, its atom is composed of a very great number of primary etheric atoms held together in less stable equilibrium than the corresponding condition of simpler bodies. That which is described as its radio-activity, is really its readiness to break up into the etheric condition. The Beta particles it throws off in such enormous volume—called at present “electrons” by the ordinary scientist—are really the etheric atoms of which it is built up. Ordinary scientists are for the moment working with an erroneous hypothesis to the effect that these are actually atoms of electricity. They are in reality etheric atoms carrying a definite charge of electricity. To a great extent they stream out in individual atoms (as electrons), but in some cases they break off so to speak in lumps, and when these represent aggregations of atoms equal in number with the aggregations forming definite (so called) elementary bodies, they present themselves in that capacity. That is the way in which Sir William Ramsay obtained his helium, and established the theoretical possibility of transmutation, thus no longer regarded as a superstition of the misguided alchemists. Following up his first discovery Sir William has since maintained that he has been able to obtain lithium from copper (in other words to transmute copper

into lithium), and carbon from silicon. His scientific contemporaries for the most part remain incredulous as regards these achievements, but there is no particular reason why the occultist should distrust the claim.

The latest work done in this department of investigation approaches the problem from the other end of the scale. Instead of breaking up a body of high atomic weight, the attempt now has been to construct bodies of light atomic weight by combining the fundamental etheric atoms.

To explain the method adopted we must remember first of all what goes on in a Röntgen X-ray tube. The electric current projected through such tubes is partially reflected out in the form of Röntgen rays, but also affects the ether in the tube generally. That has been going on ever since Röntgen rays have been studied, but the consequence has only just been realized. That which has now been discovered is that from the glass of an old Röntgen tube it is possible to obtain helium. There was no helium there to begin with. It is assumed that during the flow of the electric current the helium was formed by the aggregation of the etheric atoms or electrons. I need not attempt to describe the precise chemical process by which the helium is set free from the glass. That belongs to the region of technicality, but is not the point in dispute among chemists. The argument of the incredulous opponents of the new discovery is to the effect that as helium exists in the atmosphere it may have been occluded in the glass to begin with. The answer to this objection is that the quantities obtained by the process described are far in excess of those which could be accounted for in that way. The quantities normally in the atmosphere are infinitesimal.

The present research has been carried on by other distinguished chemists besides Sir William Ramsay—by Professor Collie and Mr. Patterson—and these

investigators have obtained the rare gas, neon, from tubes that have been filled in the first instance with hydrogen (of course in a highly rarefied condition).

There is nothing surprising in the results from the point of view of the occult student, and they may be looked upon as the thin end of a wedge that will ultimately be driven much further into old-fashioned conceptions relating to the constitution of matter. The amusing feature of the present controversy, as it is going on in the scientific world while we write, is that no attention whatever is paid, in that world, to the fact that the whole volume of knowledge towards which these investigations are groping their way, was anticipated by occult investigation in the year 1895, when in the November number of the magazine then called *Lucifer* the atomic constitution of hydrogen, oxygen and some other bodies, was fully set forth in much greater detail than later scientific investigation has yet reached. Clairvoyant research showed not merely that these bodies were composed of etheric atoms, but actually detected their number and arrangement within the hydrogen, oxygen and other atoms. The hydrogen atom consists of eighteen etheric atoms and this is a key number, giving us the number of etheric atoms in any (hitherto called) elementary body of high atomic weight. Disregarding this discovery with sublime indifference, the modern physicist is speculating wildly on the question how many "electrons" go to the composition of hydrogen, and Sir Joseph Thompson in a recent lecture suggested 1,700 as a probable number, guided apparently by the entirely delusive idea that the number would be indicated by the ratio of the mass of the hydrogen atom to the mass of the electron. The atom of any given physical body is a solar system in miniature, the negative etheric atoms representing the planets, and perhaps a positively electrified "atom" of some

unknown matter, the sun of the system. Occult knowledge concerning the beautiful phenomena of Nature dribbles out to us by degrees and we are not yet in a position to say much about the nature of positive electricity. The scientific world is busy with its investigation, but does not seem yet to be on anything like the right trail. Meanwhile at all events Sir William Ramsay's synthetic helium is a very promising addition to the armory of weapons with which the deeper mysteries of matter will be attacked at a later date.

Thus it has come to pass that some mysteries of Nature scouted and hooted at fifty years ago as empty pretences of fraud and imposture, are already recognized as worthy of serious attention.

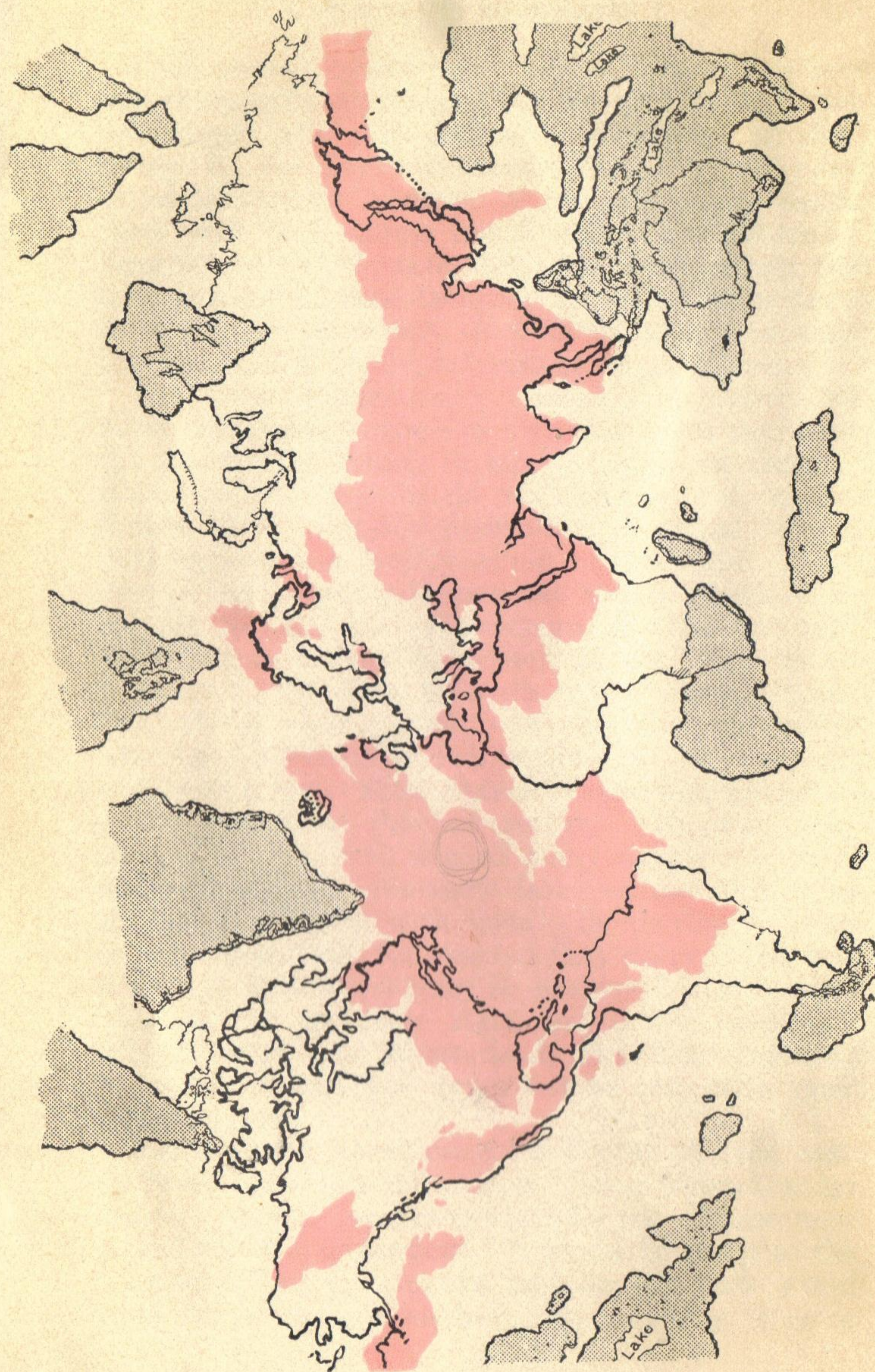
Others, of which the importance has not yet been generally allowed, will establish their claims in due time. Mesmerism, for example, which was ridiculed in the middle of the past century as though it were nonsense and superstition, is acknowledged on all hands now to be a fact in Nature, though few people understand it properly as yet, except those who have been at work with it for many years. So with what is called "thought-transference," the power some people have, if they are specially gifted in that direction, of becoming aware, without being told in any ordinary way, of what some other person is thinking.

Mathematics and indirect experiment may enable us to find out the size of the water molecule, but we shall never see it with any physical instrument. But such things can be seen by the "clairvoyant" faculty of persons peculiarly gifted. As the human race improves, such people will become more numerous than they are at present, but already they are numerous enough to enable students of "occult" science to be quite sure of their existence, and to compare their observations one with another.

That phrase, by-the-way, "occult," merely means something extra-mysterious for the time being. The few people who possessed some knowledge of electricity in the days of ancient Egypt would have called that occult science. A few generations hence there will be nothing occult about thought-transference, or clairvoyance, but, for the moment, the laws governing those faculties are still hidden from us to so great an extent, that the study of such matters lies still in the department of occult science.

The term "clairvoyance" means, of course, no more than clear seeing—seeing, that is to say, with the eye of the mind, in some mysterious fashion, which has nothing to do with optics, but, nevertheless, is a *bona-fide* perception of actual things. Clairvoyance is a faculty as old as the world. There are perfectly well-authenticated stories about it in ancient history, but no evidence of that sort will make people believe what they do not want to believe, so I will come to more recent investigations. One of the most patient and careful investigators who have written on this subject is Dr. Gregory, author of a book called *Animal Magnetism*, published in the middle of the last century. He was lucky enough to meet with a good many people who were endowed with the necessary faculties, and willing to let him experiment with them. In his day it seems to have been taken for granted that clairvoyance was a faculty that could only be exercised when people were in the mesmeric state, so all Dr. Gregory's subjects were first mesmerized, and then employed to look at things that could not be seen with their physical eyes.

For example, he would get a bagful of nuts, each made up for children's parties, with a printed motto inside. Anyone present would take one of these nuts out of the bag at random. It would be given to the "sensitive" or clairvoyant, and he (or she) would read the motto, or, anyhow, tell correctly what it



I. The World as it was 800,000 years ago.
Red—Atlantic Continent.
Grey—Lemurian Continent.

ACHIEVEMENTS AND LIMITATIONS OF SCIENCE

was. Then, before everyone present, the nut would be cracked, and the clairvoyant reading verified. These demonstrations were very neat and satisfactory, because they precluded the possibility that the motto could be read by thought-transference. Nobody present knew what any particular nut contained.

Many French experimentalists in the middle of the century entangled their researches with attempts to foresee the future by help of clairvoyance. It does not follow that because a peculiarly-gifted person may be able to see what *is* at a distance in space, he may be able to see what only *may be* at a distance in time. All the same, a great deal of interesting information on the subject of true clairvoyance is to be found in the French literature of mesmerism; and though we do not understand much yet about the laws which govern the exercise of this faculty, everyone who has the patience to become, in even a moderate degree, a student of occult science, knows that such a faculty exists.

We shall never see an atom of carbon or oxygen by means of microscopes, but we shall be able to examine their structure and composition by means of clairvoyant faculties turned in that direction, for size is no embarrassment to the eyes of the mind. The smallest things in Nature are as visible to that sense as the medium-sized things that suit our common eyesight, and the clairvoyant sight can be no more embarrassed by the magnitude in the other direction. Astronomical distances are as well within its focus as those which we can measure with our hands.

CHAPTER II ATLANTIS

"My friends," said a simple-minded preacher once in the hearing of one of my friends, "this world is very old. It is six thousand years old!" Of course, the good man thought he had Scriptural assurance in support of that estimate; but the progress of knowledge has induced us, not to treat Scriptural statements with disrespect, but to read them in a new way, and thus all educated people in the present age are well aware that the planet on which we live has been slowly brought to its present degree of perfection during a great many millions of years, and that the six thousand of our primitive ancestral belief is rather a phase of the present time than a period that can be treated, in any comprehensive sense, as the past.

A fragment of an old Egyptian history, the bulk of which has been lost, gives us a catalogue of kings and dynasties covering a period that has been variously estimated at from 3,500 to 5,000 years before Christ; but everyone admits that remains apparently associated with the earliest part of this period are of a kind that must have been preceded by long ages of civilization.

Professor Flinders Petrie, who has done a great deal of patient work in Egypt, helps himself to another two thousand years. I propose to show the reason we need not submit to those narrow limits in considering the past civilization of Egypt, and why it is desirable to attack the problem in quite a different way from that adopted by Professor Petrie, if we set out in search of general conclusions concerning the antiquity of civilized mankind on earth,

ATLANTIS

irrespective of any particular area within which such civilization may, at a given period, have fermented.

Whenever this investigation is seriously undertaken by the scientific world, it must center round the great problem of Atlantis. I have said that we have no literary records concerning the remote past, but that remark may be qualified. We have none that are as yet universally accepted as trustworthy, but Plato has left us some account, flavored, it is true, with obviously fabulous details, concerning the existence, at a period long anterior to the earliest known dynasties of the Egyptian catalogue, of a great island or continent situated in the middle of what is now the Atlantic Ocean. He got his information from Egyptian priests. Till recently the whole story was treated as a fable, but modern research has gone far, by ordinary methods, to establish the fact that such a continent as he describes did really exist at one time. Of course, there is nothing at variance with accepted scientific views in that belief.

Geologists freely admit the broad principle that most of the land which is dry at the present time was once under sea water, and presumably, therefore, that a great deal of the present ocean bed was once dry land. The only reason why the former existence of Atlantis is not universally recognized is that, as yet, we are not supposed to have sufficient proof of its existence. So far, only some students of the subject think the proof, along ordinary lines, sufficient and complete. Some of the scientific men connected with the ocean surveys of the *Challenger* are disposed to regard the configuration of the Atlantic bed as fully establishing the Atlantis theory.

Donnelly, the American writer, brings forward a mass of testimony to show that the ancient beliefs, the artistic work and the natural phenomena—the plants and animals—of Mexico and the Mediterra-

nean basin had a common origin, which could only have been possible if at one time those parts of the world were in touch with each other along land communications, instead of being separated by great expanses of ocean as they are now. And since Donnelly wrote his book, some overwhelming testimony has been forthcoming to confirm the Atlantean story. But before I come to that, it will be convenient to describe how it comes to pass that students of occult science have rushed on enormously in advance of investigation along commonplace channels of research, in reference to the conditions of the world's civilization at the time when Atlantis was in full life and vigor.

The faculty of clairvoyance, of which I have already spoken in reference to the power it gives to some of its most gifted exponents of examining the structure of atoms far too small for any microscopic investigation, is equally applicable to the investigation of the world's history in long past ages. A time will most certainly come when this wonderful power will be recognized as the most potent instrument of research which science can employ. As yet it is exercised in perfection by only a few persons known to me, but within the Theosophical connection there are several sufficiently endowed and developed—for the faculty requires not merely a natural gift, but great perseverance and devotion to the task, for its effective culture—to provide for the comparison of observations one with another, to eliminate occasional errors, and to fill up detail when the problem in hand has to do with the investigation of some long past period.

In that way the modern devotees of occult science have at last put together such a mass of information relating to the Atlantean period, that we really know much more about it than, for instance, about the so-called historical period of Egyptian civilization. And we have been made actually ac-

quainted, in connection with this research, with dates at which great changes in the configuration of the earth's geography have taken place. Ordinary geology, as I have said, makes it certain that such changes have taken place, but it does not tell us when they happened. Clairvoyant research does tell us when the changes occurred, and, more than this, gives us actual maps of the earlier configurations.

"The Story of Atlantis," the results of clairvoyant investigation into that most interesting period of the world's history, has been published in a book bearing that title.* The whole narrative is too elaborate and fascinating in its interest to be dealt with in detail in this article, which has necessarily been concerned with collateral matters, but I want especially to explain how the knowledge we occult students possess concerning Atlantis clears up questions connected with the early history of Egypt that would be quite unmanageable in any other way. Knowing how the geographical changes have been going on, we can reconcile the 9000-year limit (reckoning back from the present time), which Professor Petrie assigns to the whole history of Egypt, with the fact, of which in other ways we are quite equally sure, that the grandest civilization of Egypt was flourishing many tens of thousands of years before the country entered upon that 9000-year period. That period did not, in real truth, represent its growth and development, but merely its gradual decay.

Once upon a time—I will go into more exact detail later—land stretched almost uninterruptedly right across the region which is now the Atlantic Ocean, from the land we now call Mexico—the ex-

* "THE STORY OF ATLANTIS" by W. Scott-Elliot, \$1.25 net, Theosophical Publishing House. See also "THE CHILD'S STORY OF ATLANTIS" 50c net, issued by the same firm.

NATURE'S MYSTERIES

treme westerly limit—to the northern shores of what is now Africa (the southern part of Africa had not then as yet come into existence), and so on right across what is now Egypt (there was no Red Sea then) to what is now Asia. The land, in fact, at the time I am speaking of made a huge belt round the earth. There was no North or South America, no Europe, no South Africa. Much later on, through successive changes that I will not stop now to describe, some approximation to the present condition of affairs was reached, but still there existed in the middle of the Atlantic Ocean an island—the remnant of the original vast continent of Atlantis—and this island was about as big in area as all modern Europe, without Russia. The Red Sea had been invented by that time (it was the result of changes that took place about 80,000 years ago), and so matters remained without any great further alteration until about 11,500 years ago.*

That was the period during which the grand civilization of Egypt was actually in progress. Why have its traces not been more definitely identified? Because at the date last mentioned, 11,500 years ago, the latest of the great cataclysmic convulsions that have from time to time altered the configuration of the earth took place. The vast island constituting the remains of Atlantis subsided with terrific suddenness, and the sea, which then covered what is now the desert of Sahara, was driven eastward so as to completely deluge the land of Egypt. The great pyramid, already in existence (modern archæology is utterly mistaken as to the date of its construction), was for a time under water. Lower Egypt was obliterated as a region of land, and spent a good many years as so much sea-bed. All traces of the old civiliza-

* The reader should refer to the two maps. No. 1 illustrates the conditions first described; No. 2 shows the enormous changes which had taken place up to 11,500 years ago.



II. The World as it was 11,500 years ago.
Red—Atlantian World.
Grey—Remains of Lemurian World.

tion disappeared except as regards some of the temples, which, like the great pyramid, are really pre-diluvian, and when the next change took place, which elevated, to some extent, the whole of Northern Africa and shouldered off the waters of the Saharan Sea, leaving that region to dry up and become a desert, then the Nile resumed business as a river channel, and set to work to make a new Egypt by the deposition of fresh mud. It is this, its latter-day task, that the modern archæologist treats as though it had occupied the whole of past time.

And now, having stated what *did* occur—as occult students ascertain by surer methods than the guesses of archæology—let me, in conclusion for the present, show how some commonplace testimony of the ordinary kind has lately cropped up to vindicate occult research in reference to the latest period of Atlantean history and the final disappearance of the last remaining island. Mexico, as I have said, has from immense antiquity been habitable land. A French archæologist, Dr. Le Plongeon, has been at work there for many years. He has written books about his discoveries, and he has been the first person to decipher the Mexican hieroglyphics (which differ from those of Egypt). In 1893, Mr. E. J. Howell, in the course of a lecture before the Society of Arts, recounted the contents of letters he had received from Dr. Le Plongeon concerning his then recent work. He had succeeded in translating a certain manuscript known to archæologists as the Troano MS. It had never before been deciphered, but Le Plongeon found it to contain a straightforward narrative of the submergence of Atlantis. It is in itself an ancient Mexican manuscript of immense antiquity, and it says that the catastrophe took place "8060 years before the writing of this book." Ten countries, it says, were torn asunder in the convulsion, and sank with their 64,000,000 inhabitants.

NATURE'S MYSTERIES

The date given, it will be seen, fairly well corresponds with that obtained by clairvoyant research, and it is not creditable to the ordinary non-occult students of the bygone history and past evolution of our race, that Le Plongeon's great discovery should, so far, have excited so little attention.

The real, grand, early civilization of Egypt was introduced by migrations of enterprising colonists from the great Atlantean continent long before the contraction of that continent to the dimensions of the island which lasted till 11,500 years ago. Everything, in fact, in any part of the ancient world had an Atlantean origin, just as a few thousand years hence everything then existing about the world in the shape of civilization will necessarily be recognized as having had a European origin. Nobody can begin to understand the old world, or the beginnings of the civilization in the midst of which we live, until he has obtained a comprehensive grasp of the state of mankind in the Atlantean period. Atlantis is the key to all knowledge concerning the past history and evolutionary progress of our race.

CHAPTER III.

ASTRONOMY ANCIENT AND MODERN

People who do not make a special study of astronomy credit modern astronomers with too much knowledge in one direction and with too little in another. I am going to try and show first what kind of knowledge they do possess in perfection, and then, where and why their limitations come in. If we wanted to select one word which should be the key-word, as it were, of modern science, a single word to be its motto, that word would be "measurement." It is by accurately measuring distances, magnitudes, temperatures, weights, and so on, that the grand results of chemistry, physics, electricity, as well as those of astronomy, have been reached. Modern scientists are fanatical about the importance of measurement. A chemical analysis must be quantitative to have any value. The energies of an electric current must be expressed in terms which measure its volume, its intensity, its power of overcoming the resistance of various kinds of conductors, with the minutest conceivable accuracy. In dealing with the characteristic of light, we must use the ten-millionth of an inch as the unit of measurement when we are talking about wave lengths. And in astronomy, instruments are used that will measure distances in the sky that are no greater than would be covered by a human hair held 36 feet from the eye.

We reach, in astronomy, a series of conclusions about the distances from us of some of the fixed stars. These conclusions rest upon observations of apparent movements of such stars against the background of the sky, as they are observed at intervals of six months when the earth has completely crossed

over to the other side of its orbit. But though that crossing means that the earth is 180 millions of miles away from its previous position, the apparent movement of the star is not greater than the diameter of a penny looked at from a distance of two miles. None the less are the instruments used of such exquisite mechanical perfection that they can deal quite successfully with these minute measurements, and bring out results which we feel sure are approximately right, though the figures used to express them are beyond the grasp of the imagination.

The distances we have to talk about in reference to our solar system alone are terribly stupendous. The earth swings round in space at a distance of more than ninety millions of miles from the sun, but we are quite near compared with some of the other planets of our family. Jupiter is five times as far from the sun as we are, and the outermost planet as yet discovered, Neptune, is thirty times as far, or over 2,700 millions of miles away. The light by which we see Neptune has to radiate out from the sun to that planet, and then come back to us, and though light travels at the rate of 186,000 miles per *second*, it takes over four hours on the voyage out and home when it illuminates Neptune for our benefit. These figures give one some sort of idea concerning the magnitude of the solar system as a whole. And yet the orbit of Neptune, which may be thought of, for the present, as including the whole solar system, bears a surprising relation to the region in space that is, so to speak, allotted to the solar system.

If you imagine that region a spherical space extending to the nearest of the fixed stars, how big would that space be compared to the diameter of the system itself, the orbit of Neptune? The answer is, that if we had a flat map of that spherical region, and drew it so that the circle was about equal in

area to Lincoln's Inn-fields, then the whole solar system would have to be represented by a shilling in the middle. Thousands of millions of miles are as nothing compared with the distances of the fixed stars. The nearest of them is twenty or thirty *billions* of miles away from us, and a billion is a million million.

Facts of this kind can be served out to us by modern astronomers to any extent we desire. And besides the measurements they are enabled to undertake, astronomers can now reach conclusions that are more interesting even than their figures. Other sciences have lent their aid to astronomy, and, above all, that which enables us to discover, from the examination of light, the chemical constitution of the body which emits it. The light to the eye may look just the same whether it comes from highly-heated carbon or from highly-heated iron. But to the spectroscope these two kinds of light look very different indeed. The trained observer can recognize one from the other at a glance. And so every kind of substance known to chemistry, when heated sufficiently to be luminous, gives out its own kind of light, and no other. In this previously unexpected way astronomers were suddenly put in possession of a resource, an instrument, by means of which they were enabled to ascertain first what the sun was made of, and eventually what each star that shines with its own light is made of.

So, creeping on from one step to another, modern astronomy has come to include a great volume of knowledge concerning what I have called the outskirts of the heavenly bodies. But the temper of mind in which scientific men of the nineteenth century have, for the most part, regarded Nature, has led them to neglect all those aspects of astronomy which do not come within range of measurement. And the prevailing mental fault of the nineteenth century has been conceit with itself and its own

achievements, giving rise to contempt for everything it did not understand. Traditions handed down from earlier periods of the world's civilization have been thrown aside as superstition if they did not fit in with knowledge that the nineteenth century had acquired for itself. Our tendency to do this has been aggravated by the objectionable shape in which, for the most part, such traditions have come down to modern times. But none the less has this hasty, careless policy betrayed the modern scientific world into taking up an attitude, in reference to a multitude of Nature's most interesting mysteries, for which we shall be laughed at by the scientists of the future much more contemptuously even than we have been laughing at the folly of our ancestors.

The study of the heavens in past ages bore fruit of a wholly different kind from that which has rewarded the observations of telescopic astronomers. The prevailing belief was that the stars and planets, the sun and the moon, exercise some mysterious influence on human affairs, and, generally, on the world in which we live. The further back we go in clairvoyant investigation, the more persistent and minute we find this belief to have been, and it survived up to a very recent period. It survives, for that matter, with some modifications, amongst those who know, up to the present time, and will revive with great effect at some period in the future, when, perhaps, the mysteries concerned will be better understood than in the past. But the point I want to make first, before going into speculations concerning the future, is that ancient astronomy—or "astrology," as it used to be called—represented an enormous volume of conviction amongst millions of people far advanced in other branches of knowledge and culture, to an extent that ought to make modern thinkers pause before scoffing at their beliefs.

Our principal difficulty in handling the subject is that we have no authentic record of the theories

that prevailed among ancient astrologers in reference to the influence of the stars on human affairs. We only know that they gave an amount of attention to the whole subject, which makes it certain that experience had shown them to be on the right track. They probably had no theory to account for the facts they observed, but they had not fallen into the peculiar vice of our age—that of denying that a fact is a fact if we cannot understand it.

The supremely great mind of Francis Bacon found room for a belief in astrology. Kepler, one of the founders of modern astronomy, avows that a study of the facts has "instructed and compelled my unwilling belief" in the inexplicable relationship of planetary aspects and conjunctions with human affairs; and Flamsteed, the first Astronomer-Royal of Greenwich Observatory, was not only a believer in astrology, but a practical astrologer himself, and he cast an astrological figure to determine the probable future of the Observatory itself. Nor has the study been altogether neglected even in our own time. Plenty of text-books are in print, and new ones are often appearing, which teach inquirers the rules of the astrological art as far as it is understood now; and other books on the subject have accumulated great masses of evidence to show that though we cannot see the sense of it, astrological forecasts of the future do continually turn out right. My limits will not allow me to tell stories in detail. I know of one case in which a man's death, by an unusual kind of accident, at something over sixty, was foretold at his birth by an astrologer (long since deceased), together with the leading events of his lifetime.

The books record such cases to an extent that makes the theory of accidental coincidence altogether ridiculous. And in a manner that is profoundly mysterious, but almost invariable, the "horoscope," or map of the heavens, at the time of anybody's

birth, will be found to correspond, in certain ways, with his physical appearance. I am not going to guess why certain configurations of the planets and stars at the moment of a birth should correspond with the physical characteristics of the child. The idea is so difficult to understand that it looks absurd, and all one can say is that it is so, and every student who has the sense to examine the facts before coming to conclusions about them, will bear testimony that it is so.

Unfortunately we have lost touch with the finer details of the astrological art as practised by the scientists of the ancient world, and, so far, the scientists of our world have not taken the trouble to work up the lost knowledge afresh. All that we know of astrology practically in the present day is derived from the writings of the Egyptian philosopher, Ptolemy. The situation is all the more tantalizing because, if we go back far enough, we find that in old Chaldea—the country lying along the valley of the Euphrates—the learned men of the time not only made great use of astrology, but possessed so complete a comprehension of the solar system, that they had anticipated our exact knowledge of the distances and masses of the planets. They seem to have been astronomers, in our sense, as well as astrologers, though in those days measurements were apparently held to be of little importance beside what may be called the human interest of the heavens.

In speaking of Chaldean knowledge, I am, of course, drawing upon the results of clairvoyant investigation for my facts. This investigation has not yet recovered touch with Chaldean methods of astrological calculation, but it shows that, at a period about twenty thousand years ago, the Chaldean priests constructed their temples on astronomical principles. A series of temples in that country constituted a kind of orrery, or model of the solar sys-

tem. The great temple in the middle stood for the sun. At distances that corresponded in their proportions with the real distances, other temples represented the various planets, and the sizes were all to scale, though, as we find necessary in drawing a map of the solar system, the Chaldeans had to adopt one scale for sizes and another for distances. Anyhow, the arrangement of the temples showed that they already, at that remote date, knew about the existence of Uranus and Neptune, and apparently they were acquainted with one planet that has long been suspected to exist, but has never yet been seen by modern eyes—the interior little world, provisionally called Vulcan, revolving so close to the sun that it is inside the orbit of Mercury.

Already a fairly widespread appreciation of the situation, as I have described it, is leading a good many people to pay attention to astrology, and some of them get too enthusiastic, fancying that the "science," as they regard it, can tell us a great deal more than is really possible. It is not a science at all in its present condition, but a confused mass of rules imperfectly understood, by which calculations can be made, but for no one of which have we any foundation in reason. All we know is that calculations made along those lines come out right in a proportion of cases that makes all talk of coincidence absurd. But the art—regarding it in that light rather than as a science—is fraught with embarrassments. In its first broad application it has to do with "nativities," with figures, or maps, representing the positions of the stars and planets in the heavens at the moment of a child's birth. But, first of all, how often is the real, exact moment of a child's birth accurately recorded? An error of five minutes will alter the significance of the figure. And what is the exact moment of a birth? It is needless for me here to go into physiological details on that point. Enough to say that the child's first cry is

the orthodox moment in question, according to most modern astrologers.

Given any moment, it is very easy to "put up the figure," as the phrase goes. All the necessary almanacs and tables are regularly published, and anyone can learn the rules for "casting the horoscope." But to read its meaning is quite another business. For that, an astrologer has to be saturated with a knowledge of all the significances attributed by Ptolemy to the various—almost infinitely various—conjunctions, aspects, relative angular distances, and so forth, of the heavenly bodies concerned. And in order to predict future events, according to the rule-of-thumb methods handed down to us, intricate calculations have to be made as to the places that will be occupied by the planets at future periods. Finally, in regard to nativities, no modern astrologer of intelligence would claim to be able to do more than forecast probabilities. The calculations, as we have to make them now, are either too slovenly to be trustworthy, or too intricate to be accomplished by anybody with exactitude. But there is another branch of astrology called "horary astrology," which does not aim at doing so much as that kind which deals with nativities, but is more easily worked. For choice, it seems more absurd—more hopelessly opposed to reason—than the kind I have been describing.

But experience again floors incredulity. If some really important, momentous question concerning your life, health, fortunes, or happiness is preying on your mind, and it suddenly occurs to you, Could astrology answer this question for me?—ridiculous and preposterous though it may seem, astrology most likely could! You yourself, if you are an astrologer, or somebody else for you—the rules to be followed being a little different in the two cases—must put up a figure, draw a map of the heavens, for the moment at which the idea of doing the thing occurred to

you. If you have accurately observed that moment, the work can be done at any convenient time afterwards. Then the map is read according to certain rules (which do not involve any intricate calculations), and the answer stares you in the face!

Perhaps, indeed, the figure will not, so to speak, make sense. It will not be coherent. It will, perhaps, resemble a mass of letters jumbled together at random, as compared with intelligible words. But if it does make sense, it will very generally turn out to tell the truth. That is the wonderful part of the story. You cannot begin to explain why. The whole business is utterly unintelligible, but the facts of experience are stubborn things. When they come within our own experience, we all submit to their force, but when they are gathered up by other people, then there are two ways of looking at them. We may say: That sounds all nonsense, so the people who relate their experience must be telling lies. Or we may say: Our knowledge concerning the mysteries of Nature is, so far, the merest smattering. For anything which really happens there must be an explanation to be got at sooner or later. Since the unintelligible experience is there to guide us, let us examine, investigate, try new experiments, gather together such a volume of facts that the actuality of the occurrence shall be beyond dispute, and then let us set out in all directions to hunt for the clue to the infinite marvel with which we have to deal. For, remember that there is no problem with which scientific investigation could concern itself that is of deeper significance to the human race than this which lies at the root of the astrological mystery. To what extent is the future mapped out beforehand by powers above us? How is this globe on which we live concatenated in its destinies with the other globes wandering in space? What, in the name of all that is bewildering, can be the nature of the unseen influences pouring down on this earth across the

awful distances that separate us from the planets and the stars? And how, as they intermingle, do they qualify, modify, or accentuate each other?

The leaders of orthodox thought in the present age of the world, and by that phrase I mean, of course, the leading scientists of the time—for no flattery could now assign that title to the theologians—represent a woeful mixture of good qualities and bad. They are so careful, so accurate, so beautifully painstaking within the limits of their activity, that from one point of view they command enthusiastic admiration. And yet they have so many characteristics in common with the Man of the Muck Rake in *The Pilgrim's Progress*. They will not interest themselves in anything except the physical plane of Nature. A problem must come within the range of laboratory experiment to be a problem for modern science. That is a glorious foundation most assuredly, but it is only a foundation, and the time cannot now be far off when the architects of science will begin to dream of the mighty structure that must ultimately rest upon it, and set themselves to work to gather the new kind of material with which alone that structure can be raised.

FORETELLING THE FUTURE

When people blunder by accident, so to speak, into the paths of occult research, and first become aware, in their own experience, that things may happen which their previous training made them think impossible, it often seems to upset the balance of their judgment. The boundary between the possible and that which they have always been accustomed to regard as the impossible, has been broken down. They do not know where to set it up again. So it arises that I often see half-joking, half-credulous conjectures as to wonders that may be perhaps brought about, or as to stories told of something wonderful that is said to have occurred, which no experienced occultist would treat seriously for a moment. In reality, the regions of Nature in which super-physical events take place are just as much under the reign of law as those which have to do with chemistry or electricity. As I grant that these regions are imperfectly explored at present, it may be that they hold many surprises in store for even the most advanced students. But that may be said of any science. Chemistry itself may have surprises in store for us, but nevertheless, if we are told that some chemist has accomplished some new result, we know, from previous experience, whether such a result lies within the domain of regions not yet fully explored, or whether it is in flagrant contradiction with existing knowledge. So with tales of occult achievement. I could illustrate what I mean in a dozen different ways, but, to begin with, I will deal with theories that are reasonable, and theories which are absurd, in connection with a matter which inter-

ests everybody and hinges on to what I was writing about in the last chapter—the problem of foretelling the future.

Palmistry and astrology are only two of the methods that from time to time in the history of the world have been employed with this end in view. Most of my readers will be surprised at the length of the list if I give them a mere imperfect glance at some of the systems adopted in the ancient and mediæval world for getting forecasts of future events. We may read about geomancy, capnomancy, coscinomancy, bibliomancy, belomancy, hydromancy, pyromancy, rabdomancy, and many others, not to speak of our more recent cartomancy and chieromancy. These were all systems of divination which the prigs of the nineteenth century classed together as so much fraud and imposture, in total disregard of facts as well authenticated in many cases as any of history or geography. The more intelligent view is that, if events are well authenticated as having occurred, and if they seem at variance with some law we think we understand, there must be some hidden factor in the body of circumstances concerned which altered their significance. I will take an example from the testimony of the first Lord Lytton, who, as everybody who knows anything at all about the history of modern occultism will be aware, was a very earnest student of Nature's mysteries.

The system of divination which Lord Lytton chiefly made use of was the first on the above list, Geomancy. It would take too long to describe the practical rules of the art, which, as the name implies, has some supposed connection with movements of the earth, but the "figure" set up to solve any question presented to a geomancist (never mind for a moment the rules by which he sets it up) consists simply of dots or marks irregularly grouped on paper. He reads the significance of these markings according to other rules. In 1860 Lord Lytton put

up such a figure to see what would be the future of "Mr. Disraeli," as he was then—and, remember, the period was one at which it was still the fashion among Liberals, then predominant in Parliament, to ridicule and despise Disraeli—and long before he had ever been Prime Minister. Lord Lytton was astonished at the significance of the figure. He recorded it as quite out of keeping with any reasonable expectations. It betokened important advantages from marriage, a peaceful hearth, public honors far beyond anticipation, death ultimately in an exceptionally high position, in the midst of general affection and regret. The subject of the inquiry would bequeath a reputation "quite out of proportion to the opinion now (in 1860) entertained of his intellect even by those who think most highly of it. His enemies, though active, will not be persevering; his official friends, though not ardent, will yet minister to his success." The details of the prophecy will be found in the second volume of the second Lord Lytton's life of his father. What is the meaning of such cases, which could be multiplied almost indefinitely? I will give some others from my own experience a little further on, but first I want to suggest some general ideas on all such subjects.

To call such a triumph of divination as that just quoted "coincidence," the common refuge of stupidity. But it is hopelessly unsatisfactory to attribute a correct divination to the arbitrary markings on paper, which seem all there is to go by. The missing factor in the whole transaction is to be found in the all but invariable circumstance that the successful diviners, whatever method they become attached to, are "psychics" in a greater or less degree—people who have to some extent, however unconsciously, developed the faculty of clairvoyance, the faculty of taking in perceptions by means of a certain sensibility which we may, for convenience, call a sense not yet generally developed. The external rules of the

system employed would be of very little use in the hands of a person who was not in any measure a psychic, and in the hands of a person really so endowed almost any mode of divination will sometimes prove successful. The use of the favorite method, whatever that may be, has the effect of concentrating the attention, of stirring up the activity of the sense in question, so that the tangible things observed become, as it were, fraught with a meaning.

This explains the nasty old habit of the Roman augurs, who got into the habit of inspecting the entrails of birds or animals. Modern wiseacres laugh at the idea that such indications of the future could be found in such casual and dirty combinations. They fail to realize how stupid it is to suppose mankind for a long period going on believing in predictions that never came true. Of course, they sometimes came true—the predictions of the old oracles and diviners—because, however dirty and meaningless in themselves were the methods of divination employed, the more or less effective clairvoyance of the augurs or diviners put them in touch with the foresight which is possible for people whose consciousness can reach that region of Nature which occultists call “the Astral Plane.” I have known really accomplished clairvoyants who thoroughly understood all that I am saying now, and a great deal more, who, nevertheless, would cling to some favorite trick, quite meaningless in itself, as a way of starting the activity of the astral senses. Looking in a crystal ball is one such method. The ordinary man might look for a month and see nothing, but I know several persons (quite unknown to fame, and not “professional”) who never look in a crystal for a minute without beginning to see visions of one sort or other. One most genuine clairvoyant of my acquaintance had a trick of gazing intently at the bits of tea leaf at the bottom of a cup as a means of stimulating the astral sense. Arabs of old who

watched the flight of arrows (Belomancy), and the modern water-finders who use a hazel twig, and seem to feel it turn in their hands when they come over a hidden spring, are in the same way stimulating clairvoyance.

The human goose who thinks they must be “hum-bugging” because he cannot see the connection between a hazel twig and an underground spring, is doubly stupid. First, there is no contradiction to any really known law in the theory that there *may* be some such connection (though I do not say there is), but, secondly, the fact that water finders do succeed in locating hidden springs, is perfectly well authenticated, while the idea that this can be done by persons gifted with the necessary amount of clairvoyance is no more unreasonable than to suppose that a person with a sufficiently good ear can play a tune he has heard on the piano.

The painful embarrassment we have to face in dealing with this matter arises from the apparent necessity of admitting—if we admit that the future can be foretold—the horrible idea that we are under the dominion of some terrible fate that makes every misfortune or sorrow that befalls us inevitable! To believe that the future can ever be foretold seems equivalent to saying that all future events must be determined by some appalling destiny beforehand; that if we do foolish things, or commit crimes even, those acts were inevitable! We seem drifted in this way into the worst horrors of Mohammedan fatalism. No such grievous conclusions need be drawn from the fullest possible recognition of that which to me, and to all who have made the matter a study, is a certain fact, that very often future events are foreseen; that not infrequently prophetic dreams “come true,” and that often the crystal, or even the tea-cup, in competent hands will give warning of trouble, or sometimes promise joys that in progress of time actually come to pass.

The apparent contradiction is explained in this way. In that state of consciousness which we call in occult terminology "being on the Astral Plane," or "reading in the Astral Light," the inevitable result of any body of causes then in operation—that is to say, the effect they would have if nothing happens to disturb them—can be perceived in a way impossible down here. A humble analogy may be derived from the position of the man on a ladder looking over a maze in which holiday-makers are wandering about and trying to find their way. In the midst of the twists and obstacles they cannot tell at any given moment whether they are pursuing a path that will enable them to get out, or running up a cul-de-sac. But the man on the ladder can see quite plainly. He can see the obstacle or clear path, as the case may be, which is veiled from their sight; therefore he can foretell whether they will go on or very soon be turned back. In the same way, though the complication of the process is greater, the clairvoyant, seeking to follow out the progress of events, sees what must happen, if things are left to themselves, from the operation of the body of causes in existence at any given moment.

But here we are not in presence of an unalterable set of facts like the obstacles in a maze, but are dealing with alterable conditions affected by the human will. Most generally it will happen that, by reason of their blindness to the tendency of subtle causes affecting human affairs, people do nothing to alter the course of events in such cases as I am imagining, and then the prophetic vision, the forecast of the clairvoyant, or the dream, as it may sometimes be, is justified by the event, and "comes true," as the phrase goes. Where the person concerned is himself sufficiently alive to the true meaning of a prophecy as to avail himself of the warning it may convey, he very likely *does* do something to import a new factor into the transaction, and then

the event does not come off. That does not invalidate the accuracy of the prophecy. It merely puts the person concerned to that extent in the position of one who has soared above the commonplace conditions of life, and has become, in a certain small degree, a power in the world, not merely a straw borne on the waves of circumstance.

The life of a very remarkable clairvoyant, the late Mrs. Anna Kingsford, whose most interesting memoirs have been written by her friend and collaborator, Mr. Edward Maitland, will furnish us with examples of both kinds of prevision. In dreams chiefly, but in other ways as well, Mrs. Kingsford was continually getting forecasts of future events in which she herself was involved. Many of them would be quite trivial, for it is not the importance of an event that will lead to its prevision, rather the condition of the clairvoyant at the time. In one such case within my own knowledge at the time, as I had the pleasure of her acquaintance, she told friends with whom she was staying just then that she had seen herself, in vision, in a hansom cab surrounded by soldiers, and apparently in the midst of some scene of fighting or disorder. No sense could be made of the forecast, but it chanced that the very next day, being in a hansom cab, after calling at a club in Pall Mall to leave a message for one of its members, she was driven rapidly round the corner of Marlborough House and full tilt into the midst of the Guards just marching off the scene of the usual ceremony in the courtyard of St. James's Palace. Her unintentional charge threw the column for a moment into disorder. Bayonets were flashing in the sun, the cab horse was on his haunches, and the insignificant scene of the vision was thus realized. Nothing serious happened. The whole transaction was of no importance; but she chanced to have sensed the causes leading up to it on the astral plane, and nothing was done to interfere with the result.

In another case, when in Paris, she had caught out a maid-servant in some serious delinquencies. She was very angry, and resolved to prosecute the girl. With this fixed intention in her mind, she slept that night, and dreamed that she saw herself turning the corner of a street in Paris and meeting a woman who threw vitriol in her face. She woke with the sting of the acid, as it were, burning her cheeks. She took the warning, and did *not* prosecute the girl, and the alarming vision never was fulfilled. These are merely two examples out of many that might be quoted from the experiences of the remarkable woman I have named, and from the experience of others less known to fame I could quote other similar cases.

Before dropping the subject, I may as well say a few words on the deplorable manner in which some people sometimes aim at utilizing the possibility that the future may be foretold. There are people who would not hesitate, if they thought it possible, to get occult information as to what horse is going to win the Derby, or what stocks are going to rise or fall. Like every other contingency depending on causes in operation, such events are, in a certain sense, foretellable, because there are few persons concerned with their realization who will be likely to have such knowledge as would enable them to import fresh causes into the combination. But there are two difficulties in the way of degrading the arts of divination to the service of such purposes as those I have indicated. First of all, some of the persons whose apparent free-will is engaged in the business may accidentally swerve from the line of action along which they are being projected by the pressure of circumstances. To discuss that point fully would lead me into the depths of metaphysics, but it is enough to say that such events, as foreseen from the height of astral vision, are liable to disturbance—like all others, indeed. But, secondly—and this

is a consideration of greater practical importance—no clairvoyant of the higher order would consent to be engaged in the investigation of such problems. That would involve a degradation of exalted faculties from which every high-minded occultist would shrink, while anyone who might be described as a low-minded occultist would probably not be sufficiently advanced to be guarded against the infinite variety of confusing and erroneous visions with which the astral plane is necessarily saturated.

CHAPTER V.

BEHIND THE SCENES OF NATURE

In a rude and humble sort of fashion the arrangements of a theatre are designed in unconscious imitation of nature's operations in this living world around us. Effects on the stage are presented to the audience, but the machinery by which they are brought about is carefully concealed from view. The visible stage may seem roomy and profound, and the artful devices of the painter may suggest an infinite perspective; but much nearer, really, than the distant hills of the stage picture are the pulleys and ropes that control the shifting scenes. Unsuspected mechanism lurks above and below, and, besides the actors in front of the footlights, many other players of unrecorded parts must be actively at work all the time, or the dawn which has to break over the landscape would not appear at the right moment; the thunder shower, necessary to the progress of the piece, would fail to keep its appointment, and the best sensations of the melodrama might culminate in the shame of the managers. So with the vast proscenium on which the drama of human destiny is worked out; the play could not go on for a day—not for a minute—unless there were countless unseen agencies, many of them quite as intelligent as, or much more so than, those who “strut and fret their hour upon the stage,” busily engaged all the time in working the machinery.

A deeper truth than even he intended is involved in the words Lord Bacon used (playing a part himself, and disguised as Shakespeare) when he said, “All the world's a stage, and all the men and women merely players.” There are many aspects of the

BEHIND THE SCENES OF NATURE

infinite subject I am handling that cannot even be referred to without constant allusion to the unseen agencies so busily at work, and I propose now to give some account of the all-important functions they discharge in Nature, and of the unseen realms in which they carry on their activity. I say “realms” in the plural advisedly, because it would be a fatal mistake to imagine that all “behind the scenes of Nature” is merely one region stocked with the whole mass of machinery which produces the visible effect. There is really region behind region, stretching up to infinity, for that matter, and fading away into the incomprehensible, into that which for ages to come must be the “Unknowable” for most of us; but the fundamental blunder of primitive thinking in connection with these profound mysteries is that which divides Nature into the plainly visible phenomena of everyday life, and a veiled unfathomable region of causation into which it is supposed the consciousness of embodied humanity can never hope to penetrate.

Occult students have penetrated so far into this region that they, in turn, are liable to fall into the mistake of thinking that the whole machinery of the Cosmos is accessible to their investigation. This is far from being the actual state of the case, but none the less is the knowledge we are in a position to obtain so greatly more abundant than that which lies open to mere physical research, that we are at least able to feel quite at home in realms that are, at all events, well behind the scenes of familiar visible manifestation, and can account for a great deal that seems at the first glance utterly beyond the range of the human understanding.

For the present I shall merely attempt to speak of the region which lies immediately behind the visible world—just as much belonging to the world as its atmosphere. That region is spoken of in occult language as “the Astral Plane.” The term is

not a good one, because it seems to suggest some association with the stars, though no such meaning is really involved. The phrase, however has been used for hundreds of years by writers on occult subjects all through the middle ages, and we cannot throw it aside now. Again, the word "plane" is not a very happy one, because it seems to suggest a flat surface, and that idea must be utterly cleaned out of the mind before we can begin to think of the astral plane correctly. If we who study occultism, my readers may ask, do not like our own phrases, why do we use them? The trouble is that the language does not supply words that precisely fit occult emergencies.

How, for instance, shall we call this region of Nature, of which I want now to speak, by any really appropriate name? It is a condition of things that in some aspects suggests the idea of an envelope surrounding the earth, but then it interpenetrates the earth as well as surrounding it, just as (or much more thoroughly than) water penetrates the pores of a wet sponge. It is infused in all matter as a salt dissolved in water exists in association with all its molecules. An accepted dictum of occult science tells us that every particle of physical matter has its "astral counterpart." It is through that astral counterpart that all the natural forces controlling its growth or development, whatever that may be, are exerted.

For the most part, ordinary people have no direct consciousness of the astral plane, but dreams often bring them into some relation with it. Dreams have, indeed, a very mixed constitution. When the body is asleep, the consciousness of the person concerned is really, in most cases, in touch with the astral plane, though, unless he is gifted with "psychic" attributes, he perceives its phenomena very imperfectly. We all have organisms adapted to consciousness on, or with reference to, *all* the planes of Na-

ture; but most of us at this stage of human evolution have got no more than an astral body in an undeveloped state, not much better ready to work with than the body of a blind kitten a few days old is ready to catch mice. The race will greatly improve in this respect by degrees, but, so far, the people who can exercise consciousness on the astral plane quite completely are few, and that is how the many (when, besides being backward in evolution, they are conceited enough to think they are in its van) are so comically contemptuous about the knowledge that the (relatively) few possess.

Imagine a country isolated from the rest of the world, in which all the people from time immemorial had been born deaf. Life would have adapted itself to that condition of things. People would communicate by signs, and would have become so skilful at that as to be under no sense of restriction. Then suppose, one by one, a few of them began to hear. The early possessors of the incomprehensible faculty would not have a very good time of it among their friends. If they pretended to be able to communicate with one another through an opaque screen, the sober, common-sense majority would know quite well that they were cheating, though it might be difficult to detect the fraud. If they pretended to "hear" a gun fired at a distance, the one thing certain would be—if it turned out on inquiry, that a gun really had been fired—that they had bribed the man who fired it to shoot at a pre-arranged moment. The "hearers" would be unanimously voted liars or victims of hallucination, and they would be apt to give up talking about the new discoveries they had made, until, indeed, they became numerous enough to laugh, in their turn, at the old-fashioned deaf mutes, or perhaps, to do their best to share with the more intelligent of those same deaf mutes the advantages of their acquired sense.

That idea would really parallel the present con-

dition of modern society in regard to the phenomena of the astral plane, and the time has happily come when those who have astral faculties are numerous enough to support one another in amused indifference to the jeers of the ignorant "deaf mutes," and sufficiently impressed with a sense of duty to their contemporaries to describe their discoveries openly for the benefit of all who want to grow. For, in truth, the faculties of astral perception will not grow, as the blind kitten's eyes eventually open, quite of their own accord. The appreciative and aspiring mind must bring certain influences to bear on the process—but that is, indeed, another story—as long as we are still standing on the threshold of the astral plane, realizing for the first time, as we look at the tableau on the stage, that there is a wealth of machinery behind the scenes by which it is all brought about.

The first most glaring fact about the astral plane for those who become endowed with the faculty of perception with reference to it, is that there we come into relation again with a large majority of the people who have recently died. For them, it is true, it is but an ante-chamber to higher conditions of existence, but it is an ante-chamber in which they will sometimes be kept waiting a long time. The astral bodies in which they find themselves functioning will be just the same in substance as those which they possessed, without knowing anything about it, during physical life; and at first, truth to tell, for undeveloped people it is a very imperfect vehicle of consciousness. But for everyone it soon wakes up more or less, and in proportion to the extent that this happens (under the mental and moral influences engendered during life), the enjoyment of the astral period of existence is very significantly affected. But I must not be tempted to go into that matter fully just now, because the main point I have in

view is the justification of the broad idea concerning the astral plane, with which I started.

It is the region that may be described as behind the scenes of Nature, not merely because the actors who have just left the stage are to be found there, but because there are other—"people" shall I say?—entities, at all events, who have never been on the stage at all, but are entirely concerned with controlling the machinery, and these are known to occultists as "elemental spirits" or "elementals." They are countless as the sands of the seashore; they vary in efficiency, in degrees of growth, in individuality, as widely as the whole animal kingdom on the physical earth varies. The elementals are the agencies through whose intermediation much of the work of Nature on the physical plane is carried out. In some of their aspects they may be thought of as forces, operative, with scarcely any individual initiative, modifying (rather than giving rise to) the growth of plants and the activities of the inorganic world. In the higher departments of their work they participate in the guidance of even human affairs; and in some cases the human will, developed to the higher degrees of its potentiality, controls them in turn, and so brings about the otherwise unexplainable phenomena concerned with material objects that so perplex the reason at some spiritual *séances*.

Spiritualists generally are apt to attribute such phenomena to the direct agency of their departed friends, but this is a mistake that the more scientific occultist does not fall into. The departed friend, during his sojourn on the astral plane, may acquire knowledge, by means of which he can, within certain limits, induce or control elemental beings to subserve his wishes as regards working wonderful phenomena for the instruction or delectation of his late companions still in the earth life; but, more commonly, startling physical phenomena are pro-

duced—through elemental agency—by entities, who, for that matter, may have been at no very remote period in the past in earth life themselves, but who have been regularly instructed by the higher entities, of whom it would be premature to speak more definitely just yet, to play the part of “spirit guides.” The complications of the subject lead me continually to brush the surface of fresh mysteries, which readers who follow these expositions systematically will come to know a good deal more about in time.

We must not think of the elementals, however, as being only concerned with working wonders. They are able to do this because it is their function in Nature to work out the ordinary processes of growth, development, and decay, of meteorological phenomena, of combustion, of earthquake disturbances, of everything that happens in the natural world. Do not let anyone imagine for a moment that these results and processes are due to their volition. The elemental, as a rule, has no volition. He? It? They?—one does not know what pronoun to employ in dealing with such unfamiliar activities—are the means by which, in obedience to sublimely-exalted volition, the business of Nature is carried on. Occultism does not dethrone the Deity, be it always remembered; quite the contrary. But suppose some reverent savage were to be content to say, with reference to a locomotive engine, for instance, it is the will of the driver that makes it go! A more intelligent inquirer would want to understand how his will was transmitted to the wheels, and he would find the intermediate “elementals” in the boiler and the fire-box. That is the principle on which the occultist studies Nature, and the boiler is to the engine what the astral plane and its marvelous population of elementals is to the world in which we live.

THE SENSITIVE AND THE “O.P.”

What is the difference between persons who can take up mesmeric influence and those on whom it has no effect whatever? The fact that this difference exists is one of the reasons why so many people remain incredulous about the reality of the effects that seem to be produced on others. They declare, scornfully, “You can’t mesmerize me!” and vaguely feel that in saying this they have cast grave doubt on the question whether there is really anything in mesmerism at all. It is as though some person, with no more ear for music than a cabbage, should go away from a concert, declaring, “You can’t make me distinguish any difference between *God Save the Queen* and *Pop Goes the Weasel*.” If such persons as he were in the majority, then the possession by some of a musical ear would be laughed at and disbelieved just as, in the present state of common knowledge, the condition of “sensitiveness” to mesmeric and other influences of a similarly subtle character is laughed at by the Ordinary Person of today—the “O.P.,” as we, who have to compare him very often with others more highly gifted, have fallen into the way of describing him.

I suppose few people are so little acquainted with the elementary facts of chemistry that they would be surprised to see nitric acid seriously affecting a silver plate, while it produced little or no immediate effect on a plate of lead. The silver is sensitive to nitric acid, and the lead is much less so. With all the science of the Royal Chemical Society to help you, you could not come much nearer an explanation of that state of things than the phrase just used embodies. So, in reference to the more intricate prob-

lem why some persons can take up and be seriously affected by an unseen influence like that emanating from the hands of a genuine mesmerist, it would hardly be reasonable to expect that a fully satisfactory explanation could be provided. In truth, we can come rather nearer explaining why some persons are sensitive to psychic impressions—including those on the borderland of the physical and psychic planes—than we can account for the mysterious affinities of the chemical elements; but to content ourselves, in the absence of any perfect explanation, with analogies, I would point to the familiar fact that a sheet of aluminium is almost absolutely transparent to Röntgen rays, while a sheet of platinum is almost absolutely opaque. Both metals, to the eye or touch, seem equally solid and impervious to anything we put upon them. Or again, why should glass be quite transparent to ordinary light, and wood, a more porous substance, quite opaque to it? There need be nothing surprising, though there may not be any conditions quite explicable, in the fact that some human bodies are pervious to the mesmeric fluid, and some impervious to it.

As to whether there is or is not a fluid in the case at all, that can only remain in doubt, with the O.P., by reason of his unfamiliarity with the evidence on the subject. Great numbers of people—far more than those who can bear visual testimony to the reality of astral plane phenomena—can see the mesmeric fluid as it streams from the hands of a competent performer, and floats around the subject on whom he is operating. In the middle of the century just past, Baron Reichenbach devoted himself to that particular research, and records experiments with over sixty people whom he found able to see the emanations in question, and a somewhat similar emanation that actually proceeds from physical magnets. People who deny the fluid “theory” of mesmerism might as well deny the north-seeking

tendency of the compass needle. There is more evidence for that, certainly, than for the other fact, but there is adequate evidence for both.

How many per cent of the present generation, it may be asked, are to be regarded as sensitive and how many as O.P.'s? The embarrassment here arises from the wide varieties that are to be observed as regards the degree of sensitiveness of those who are not absolutely impervious to all such influences. In its higher forms of perfection, sensitiveness means a great deal more than the mere susceptibility of being benefited by mesmerism in ill-health. I am coming on to these wonderful conditions later, but keeping just for the moment to the subject of cures, these have to do with the lowest or slightest kinds of sensitiveness. People may be cured of serious diseases by mesmeric methods who would not be capable of going off into a trance, or of becoming insensible to pain under mesmerism. For always remember that sensitiveness is not a weakness, but a faculty. Not to be in any way susceptible of the influence is to have a relatively dull, leaden, or clod-like constitution. Unhappily, that is the condition of most of us at present, but I will show directly how very far it is from being the condition of some.

Before coming to that, however, it may be well to speak of the curious development in certain cases of a peculiar kind of sensitiveness that renders people able to benefit in ill-health by pilgrimages to special places. At first sight there appears to be no connection between ordinary mesmeric sensitiveness and that aptitude for benefiting by the strange influences brought to bear on persons visiting such shrines as those of Lourdes in France, where it is undeniable that cures, thought to be miraculous, have sometimes taken place. In such cases there is no apparent mesmerism to operate. The patient goes to a place where it is popularly believed that some supernatural manifestation has promised a healing

influence to those who shall seek it in a devout spirit. In Roman Catholic countries it is generally the Virgin Mary who is supposed to be the author of such promises. Anyhow, people go in full faith, and are in some cases cured of their afflictions, but not in all. What is the meaning of it? The explanation has to be sought partly in the sensitiveness of those who are benefited, and partly in the agencies behind the scenes, which then take the place of the mesmerist.

The problem brings us into relation with the benevolent side of what I have been talking of so much lately—elemental influence. Never mind what may be the real originating force animating the benevolent elementals concerned, the *force* has been acuated somehow, and then the result follows for any persons who are in any degree sensitive. They may think the result due to a direct interposition of Providence. The restoration to health is really as much due to the operation of natural causes as though they had been mesmerized back to health, or had been successfully treated by purely physical means. And difficult though it may be to follow the train of causation, the same thing, with modifications, has to be said of those cases in which cures are effected by the people who call themselves by the doubly-inappropriate name, "Christian Scientists."

It is utterly foolish to ignore the dazzling results these people sometimes obtain, however little their proceedings may seem to fall within any definite category of intelligible mesmeric method. I know of half-a-dozen cases in which serious internal troubles, for which ordinary doctors could prescribe nothing short of formidable operations, have been decisively cured by the Christian Scientists. Because such people often fail and take money for trying their best, the suspicious O.P. regards them as conscious impostors, to whom criminal penalties ought to be awarded. They seem to be working in the dark,

and without any clear understanding of the conditions of sensitiveness, and so they do not know in any given case whether they will succeed or fail. But however tainted all proceedings of this kind become when mixed up with pecuniary interests, the rough and brutal behavior the Christian Scientists are apt to encounter in cases of failure, are more discreditable to the intelligence of the period than their own highly unscientific methods are discreditable to them.

But now let us turn from the purely medical aspects of mesmeric practice to those of far greater interest for the student of Nature's mysteries, which link the phenomena of mesmerism with the inquiry into the loftier possibilities of human consciousness. Mesmerism is what one of the early mediæval writers on occult subjects has called "the Open Door to the closed palace of the King"—in other words, the easiest method at our disposal for investigating the natural laws governing the superphysical world. As soon as we find a subject of really fine sensitiveness, we are introduced to psychic phenomena of the most enchanting order. I will begin by describing a few of these that have come within my own experience. The possibility of rendering a mesmeric subject, once put into the state of trance, insensible to pain, leads us on to a very pretty and highly instructive phenomenon. Having put my subject into a trance, and having shown her friends that she was entirely insensible to pain by running a needle into her arm without causing her to move a muscle or an eyelash, I have given the needle to one of her friends and have said: "Now, at your own discretion, prick *me* anywhere, and you will see *her* give the start." The result has come off precisely in that way.

By-the-bye, having used the pronouns "her" and "she" in the above statement, let me explain that the finer kinds of sensitiveness are more often found in women than in men, not, as the mistaken idea some-

times has it, because the woman is the weaker vessel, more easily dominated by another will, but because women, other things being equal, are the superiors of men in respect to the delicate faculties that are required for sensitiveness. It is a great mistake to suppose that the person who, in the ordinary affairs of life, may be domineering and obstinate, has a "strong will" for mesmeric purposes. He may be as feeble as a child that way, and a meek, submissive woman might have fifty times the mesmeric force. But again, it is not in the mesmerist that the conditions exist that are important in producing striking results. These depend, in a far greater degree, on the characteristics of the subject.

Well, in the absence of occult knowledge, I think it would be safe to defy anyone to give any plausible explanation of the needle experiment I have just described. But it falls into its place quite naturally when we have the advantage of considering it in the light of occult knowledge concerning the superphysical principles of the human constitution. The mesmeric fluid, spoken of above as emanating from the mesmerist and floating round the subject, is identical in its nature with the subtle essence that permeates the nervous system, and is, in point of fact, the medium of communication between the different parts of the body and the brain. The O. P. physiologist thinks the nerves themselves, that he can dissect out with instruments, are the telegraphic wires that perform this function. So, originally it used to be thought that the copper wire of an ordinary telegraph was the conductor of the electricity; but *Modern Views of Electricity* (Sir Oliver Lodge's book on that subject) holds, rather, that the real channel of communication is the ether surrounding and interpenetrating the copper. I am inclined to think that the right view in regard to physical electric circuits, but assuredly the corresponding view is the right one in regard to the nervous system and

the brain. Occult students call the subtle fluid in question (when considered in reference to this function) the "nerve aura."

Now, this nerve aura in a sensitive is very mobile. The mesmeric process drives it out and replaces it with the nerve aura of the mesmerist. The two auras are for a time blended together especially linking the two brain systems. Moreover, by reason of the condition of perfect trance established, the soul of the sensitive has drifted away from the body, and exists outside that body—perhaps close by, perhaps a long way off; but that is another story—in the astral vehicle, or sheath, or body, whatever you like to call it. Now, the alien nerve aura in the subject's system forms a very imperfect medium of communication between her limbs and brain, and this is why she does not feel pain when herself pricked, but there is a very good conductivity in the mass of nerve aura connecting her brain with that of the mesmerist. So, when he feels a prick—in the hand, let us say—his own nervous system conveys news of that occurrence to his brain, and a simultaneous impression is instantly conveyed to hers. Her brain is affected exactly as it would be in ordinary life if her hand were pricked, and so she gives the start, and, as I have seen in such cases, will make an automatic movement of the hand itself.

PHOTOGRAPHING THE UNSEEN

Probably almost everybody who may read these lines will have heard, one time or another, of what are called "spirit photographs." These represent, in a more or less shadowy fashion, beings, spirits, ghosts, or astral entities—call them what you like—that are perfectly invisible to ordinary eyesight. The simple reason why such appearances on a photographic plate are not overwhelming in their effect on popular incredulity is that such photographs can be very easily "faked," or fraudulently imitated. Nothing is easier than to dress up a living person in floating drapery, to give a momentary exposure of the plate with this imitation spirit focussed upon it; afterwards to use the same plate for an ordinary sitter, and so obtain the semblance of a ghostly form standing by his side. The value of a spirit photograph depends entirely upon the perfect *bona fides* of the whole operation. And innumerable private photographers, also spiritualists, have taken such photographs themselves, and, knowing that no improper trickery had been concerned with the results, have obtained photographs of spirit faces on their plates.

I suppose there are few professional photographers who, if they told the truth, would not have to confess that sometimes strange effects come out on their plates that seem to represent something "supernatural." But it would not be good, in the present age of the world, for an ordinary photographer's business that he should be supposed to dabble in such "uncanny" achievements, so, when the strange results come out, the ghost is treated as a defect of the plate, and is suppressed accordingly. However, unless the sitters or the photographer, or both, are mediums, such results are unusual. On the other

hand, when the photographer is a medium, and lays himself out for the unusual effects, they are exceedingly common. I have seen an immense number of such spirit photographs taken under conditions that have made me quite sure they were genuine, and very recently I have obtained a series under conditions that make any question as to their authenticity altogether absurd for me, and equally so for any other persons who are capable of understanding that I am telling the truth.

I went to a photographer who had been successful in obtaining several such photographs for friends, and, with his cordial concurrence, took precautions which put all possibilities of fraud, on his part, out of the question. I should like to remark that these precautions would have been unnecessary for my own satisfaction, first, because the honesty of the man and his sincere interest in the whole matter makes his *bona fides* perfectly obvious to any rational person having to do with him, and, secondly, because I was accompanied by a lady of my own acquaintance, gifted with clairvoyant sight, who could see the spirits being photographed. But, in order that I might have an answer for people to whom I might be inclined to show the results, and who might not be able to attach importance to the ideas I have just expressed, I took my own packet of plates—purchased the day before at Whiteley's—went myself into the photographer's dark room, put my initials on the corners of the plates, and arranged them ready for use, saw the first put into the dark slide, and came out with it into the studio, sat, and afterwards saw the plate developed under my own eyes. It bore a spirit form, as did all the others used that morning, more or less completely*. In two cases the faces of the astral entities are as clearly defined as

* The annexed illustration reproduces this photograph quite correctly, though with less delicacy than the original prints from the negative still in our possession.

if they had been physical sitters. In some the plates are marked with blurs of light, representing an unsuccessful attempt, on the part of some astral person, to materialize sufficiently for the purpose in view. The failures are as interesting as the successes, almost, for the student of these problems, as they help us to check our theories as to the way the effect is brought about—but of that, more directly. Before going into theory I want to record a few more facts.

A lady of my acquaintance, wishing to obtain spirit photographs, arranged a series of private sittings with a few congenial friends; used her own camera, and, after a few failures, obtained some of the desired effects. But then a very wonderful development ensued. The spirit friends present said (for be it understood that in this case the sitters included some who were clairvoyant and “clair-audient,” so that they could converse with the visitors from the astral plane): “Do not bring your camera any more. Merely sit in the dark with a photographic plate in your hand, and we will do the rest.” Following these instructions, the lady used to take her plates to the *séance*, unfasten them in the dark, hold them by the corner for a minute, wrap them up again, take them home, and develop them in the ordinary way. Under these circumstances faces used to appear on the plates, together with a quantity of curious and unintelligible markings that covered the rest of each plate; but the faces are in all cases quite distinctly recognizable—in some cases as those of departed friends. I have a collection of prints from these extraordinary negatives by me as I write, and they are a defiance of what ignorant materialistic people call “the known laws of Nature.” But, at the same time, they are facts, like Nelson’s Column at Charing Cross, and human beings capable of reason have got to revise their views of Nature’s laws accordingly.

Now, the spirit photographs obtained with a

camera like those of my recent series are produced in one way, and the photographs without the camera in another which is less easily explicable; but still I hope to give the reader a clue to the comprehension even of that process. There is really very little that is truly mysterious in the camera spirit photograph. But it has nothing whatever to do with the method by which the unseen in astronomy is photographed. That process is one which should be understood by anyone wanting to understand the spirit photograph, only that it may be put aside as inapplicable. It is interesting enough in itself, and has given us knowledge concerning some phenomena of the heavens that could not have been obtained in any other way.

If you look with the eye at the constellation called the Pleiades, for example, you see a certain number of stars. If you look with a telescope, you see more; but, however many you see in either case, you do not see more by continuing to look. Now, take a photograph of the Pleiades with a short exposure, and the plate will show you much the same effect as the telescope, but the longer you let the camera look at the constellation, the more it will see. That is to say, the very faint light from small stars, or nebulous matter surrounding the stars that are not bright enough to be seen with the eye, produces an effect on the plate by degrees. The effect of the light on the sensitive plate is cumulative, and in this way we have come to know that the whole constellation called the Pleiades is surrounded by a wonderful nebula of colossal magnitude quite too faint to be seen by any telescope.

Again, there is another variety of the unseen that can be photographed on different principles. The peculiar kind of light called the Röntgen ray is not perceptible to the eye, because the vibrations of the ether which constitute that variety of light are too rapid and minute to suit the mechanism of the eye, delicate as that is. Everyone knows that there are sounds too shrill to be heard, and just in the same

way—to put the idea paradoxically—there is light too bright to be seen. But the camera can see that sort of light. In other words, the sensitive plate can be impressed by it; hence we get our radiographs of people's bones and all the other phenomena of X-ray photography. And hence also, for the matter is not more complicated than that, do we get our spirit photographs of the ordinary kind—those which are taken with the camera. The spirit may be in a vehicle of consciousness that is not of a kind to impress ordinary vision, and yet it may impress the photographic plate.

How, then, does it happen, an intelligent inquirer may ask, that we do not get superphysical effects on every photograph taken, since we are told that the astral plane is all around us, and the whole of another world always in sight if we could only see it? Just so, but the light emitted from, or reflected by, *astral* matter does not affect the plate. The spirit or astral entity who wants to get himself photographed—and nobody ever yet photographed a spirit who did *not* want to have his portrait taken—has to suffuse his astral body with matter of a somewhat different kind, in order that its shape and appearance may become visible to the plate. The matter in question is spoken of by students of occultism as “Etheric,” and it exists, though unseen by the eye, in the constitution of every human being. From the constitution of some it is very easily withdrawn by astral spirits who want to borrow it, and susceptibility to that sort of treatment is one of the attributes that go to constitute a medium. Such withdrawal is a weakening, enfeebling process, and that is why mediums often feel very much depleted and exhausted after *séances* at which materializing phenomena have taken place. The materialization of the spirit sufficiently for the purposes of the photographer need not be carried nearly so far as that which aims at making the spirit actually visible to ordinary eyesight; all

the same, it is still more or less of a strain, and spiritualists, generally, who do not study the science of their own experiences, are often foolishly reckless about strains of that sort themselves—indeed, only one kind among many perils that beset the practice of mediumship.

I said the method of X-ray photography was the same as that by which we get the portraits of spirits. That is because the X-ray is really an emanation, from the “cathode” or negative pole of the electric circuit in a vacuum tube, of etheric matter. Ordinary science has not yet realized this fact, for in many ways it lags behind the knowledge gained by occult research; but such is the fact, and many other interesting possibilities of the future hang on to that fact. To see astral matter, a person in the physical body must have an altogether new sense developed; but to see etheric matter, it is only necessary for the present eyesight to be improved, as already it is improved for some few persons. The eye is an instrument of very varying capacity. This may be illustrated by an interesting experiment with the spectrum.

If we arrange things so that a solar spectrum—the rainbow-colored band of light—is thrown on a sheet of paper or a screen, it will be found that some people can see color beyond the violet tint visible to all. That is because the eyes of such persons are enabled to cognize vibrations of a higher order than those which are perceptible to the rest of us. Persons who can see a good deal further in the spectrum than others will probably be able also to see the Röntgen ray. That is to say, such persons have, in a greater or less degree, the etheric sight. When this is perfectly developed, the possessor of such a faculty can see through opaque matter of some kinds—of those kinds which the Röntgen rays penetrates—and are thus endowed with a species of clairvoyance, not of that kind which is the true clairvoyance of astral

NATURE'S MYSTERIES

sight, but of a sort that seems very wonderful, nevertheless.

Now, as to the rationale of the spirit photograph taken without the aid of the camera. To explain that, I must refer to a phenomenon almost as wonderful, but of which I have had abundant experience. It is possible for the few who not alone can see with the astral sense, but can make use of some of the elemental forces belonging to the astral plane, to produce writing on paper without the aid of pen or pencil. This is done sometimes at spiritual *séances* even, and it is not understood in the least by the ordinary spiritualist, but it is done by a process called in occultism "precipitation." On the astral plane thought is a creative power. Your thoughts, if they are sufficiently intense and clear, form images there which are perceptible to others. If you form a thought image of the words you wish to write, and know how to materialize the image by means of etheric matter, you can condense it on paper. Nothing I can say here will enable anyone to *do* the thing, but many things we cannot do ourselves may, nevertheless, be intelligible as do-able by persons adequately gifted. Now, that which seems to take place when a photographic image is produced on a sensitive plate without the aid of a camera is analogous to the precipitation of writing, only the thing precipitated is not visible matter, but a chemical influence. The whole idea is extremely subtle, but there is the accomplished result lying before me, and the solution I have suggested seems the only one available if we want to do something more than gape at it as an inexplicable wonder.